Development and Validation of Military Training Instructor (MTI) Screening Measures

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Overview

- Context for renewed attention to screening for MTI duty
- Overview of revised psychological screening of MTI candidates
  - Supplement clinical base mental health evaluation with…
    - 360 degree performance ratings from co-workers
    - Scales assessing candidate-reported attitudes
- Development of 360 rating instrument/ process and initial results from operational use of 360 degree performance ratings
  - Incidence of negative information, reliability of ratings
- Initial validation study of attitude measures linked to likelihood of sexual assault and sexual harassment in research literature

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Context for MTI Screening Focus

- ~200,000 U.S. military recruits trained annually for entry into Service
- Most of training accomplished by NCOs in special duty as instructor
  - Army Drill Sergeant, Marine Drill Instructor, Navy Recruit Division Commander, Air Force Military Training Instructor (MTI)
- Position of authority, responsibility, and influence
  - Potential for major positive/negative impact on newest Airmen
- 2012-2013 prosecution of 33 MTIs for inappropriate relationships, sexual assault, and other maltreatment towards basic trainees
- Prompted changes to how NCOs selected, screened for MTI duty
  - Air Force already required evaluation by mental

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Significant Changes to MTI Selection and Screening Process

- Changes to increase pool of NCO candidates for MTI duty
  - Restructured duty to make assignment more desirable (e.g., reduce burnout by assigning two MTIs to training class)
  - Required each command to nominate a minimum number of qualified candidates (recommended by supervisors and CCs)
- Increased standards for candidates
  - Require highest possible Enlisted Performance Report rating over each of past 5 years
  - Revised/augmented Psychological Screening process
    - Standardized base mental health evaluation protocol
    - Results integrated with 360 degree inputs from

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Development of Mental Health Protocol and 360 Instrument

- **Both revised base mental health evaluation protocol and 360 degree performance instrument developed to assess critical domains identified through extensive job analysis of MTI duty**
  - **Co-worker and clinical ratings on set of common domains**
  - **Mental health provider also evaluates on medical condition and psychological and family stability**
- **Why 360 degree performance inputs?**
  - **Best predictor of past performance is future performance**
  - **Current USAF supervisory performance ratings highly inflated**
  - **Substantial research lit showing peer and subordinate ratings improve prediction of future work performance**
- **360 item content (adapted from officer instrument)**

MTI Job Analysis—SME-Identified Most/Least Critical Personal Traits

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24 of 44 Items Rated as Very Important to Critical		
Rate the importance of the following personality traits to the safe and effective performance of an MTI		
Scale: 1 = Unimportant; 2 = Slightly Important; 3 = Important; 4 = Very Important; 5 = Critical	Average Rating	
5 Highest Rated	**Sample (N=346)**	**Subset (N=50)**
Honest (won't cheat, lie, or break the law)	4.71	4.82
Integrity (does the right thing when unsupervised)	4.77	4.76
Self-Controlled (able to control own behavior, especially in terms of reactions and impulses)	4.57	4.72
Self-Disciplined (able to do what is necessary or sensible without needing to be urged by somebody else)	4.57	4.70
Mature (the mental, emotional, or physical characteristics associated with a fully developed adult person)	4.57	4.64
5 Lowest Rated		
Extroverted (enthusiastic, NOT reserved or shy)	3.15	2.98
Cheerful (happy and optimistic by nature)	3.15	3.12
Fearless (not afraid of anyone or anything)	3.03	2.72
Quiet (displays calmness and self-control and not inclined to speak much)	2.45	2.34
Introverted (reserved, quiet)	2.19	2.19

MTI Job Analysis—SME-Identified Most/Least Critical Capabilities

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30 of 35 Items Rated as Very Important to Critical		
Rate the importance of the following capabilities or characteristics to the safe and effective performance of an MTI		
Scale: 1 = Unimportant; 2 = Slightly Important; 3 = Important; 4 = Very Important; 5 = Critical	Average Rating	
5 Highest Rated	**Sample (N=346)**	**Subset (N=50)**
Impulse control (defers temptations to act without thought or reason; controls aggression, hostility and irresponsible behaviors)	4.66	4.66
Time management (sets priorities and carries out activities around those priorities)	4.65	4.64
Leadership skills (able to motivate trainees or flights toward a common goal)	4.59	4.59
Multi-tasking (ability to perform and organize multiple tasks while simultaneously planning future tasks)	4.59	4.58
Self-motivated (able to work unsupervised)	4.57	4.57
5 Lowest Rated		
Social responsibility (cooperative, contributing, and constructive member of social groups)	3.72	3.72
Writing ability (e.g. written communication)	3.56	3.54
Technical ability (e.g. Engineering, computer)	2.82	2.80
Mathematical ability (e.g. basic calculations)	2.79	2.78
Mechanical ability (e.g. good with tools, equipment repair)	2.58	2.53

MTI SME-Identified Most/Least Concerning Candidate Warning Signs

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13 of 23 Items Rated as Very to Extremely Concerning		
Given the opportunity to interview and recommend a candidate for MTI duty rate the level of concern you'd have with the following "red flag" warning signs		
Scale: 1 = Not Concerned; 2 = Slightly Concerned; 3 = Concerned; 4 = Very Concerned; 5 = Extremely Concerned	Average Rating	
5 Highest Rated	**Sample (N=346)**	**Subset (N=50)**
Current mental health problem	4.63	4.65
History of aggressive behavior (fighting)	4.58	4.60
History of alcohol abuse	4.45	4.47
Inability to manage stress effectively	4.45	4.46
Inability to maintain Air Force fitness standards	4.45	4.44
5 Lowest Rated		
Lack of supervisory experience	3.56	3.57
Passivity (inability to be assertive)	3.53	3.53
Has a family member with special needs	3.46	3.46
Socially withdrawn (shy or avoidant)	3.13	3.11
Social membership in fringe groups (e.g., club affiliations)	2.85	2.85

Job Analytic Results Summarized Into MTI Critical Domains

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Integrity

- Honesty / Integrity
- Honest self-assessment
- Openness
- **NO history of significant integrity failures / dishonesty**

Conscientiousness Work Dedication

- Motivated
- Dependable / Reliable
- Self-Disciplined
- Conscientious
- Commitment to teaching and mentoring Airmen
- **NO History of poor work performance**
- **NO unrealistic notions of MTI role**
- **NO poor motives for applying for MTI duty—location, power over trainees, self-promotion, avoid deployments**

Judgment / Self-Control

- Maturity
- Judgment
- Self/Impulse control
- Patience
- Realistic responder
- Emotional self-awareness
- **NO history of poor control/judgment (e.g. fighting, alcohol, behaviors against the law/UCMJ, unprofessional relationships, maltreatment of**

Leadership Abilities

- Leadership skills
- Assertiveness
- Mentorship
- Group awareness
- Fair-minded
- Humility
- Supervisory experience

Intelligence / Decision-Making

- Intelligent
- Foresight
- Problem solving
- Logical
- Decisiveness
- Resourceful
- Time management

Interpersonal Abilities

- Interpersonal skills
- Compassion
- Empathy
- Team-player
- Tolerant
- Conflict resolution
- **NOT Overly self-absorbed**

Adaptability

- Flexibility
- Adaptable
- Multitasking
- Situational Awareness
- Independent
- **Able to accept and use criticism positively**

Communication Skills

- Public speaking
- Verbal ability
- Speech clarity

Physical / Medical

- **NO inability to maintain fitness for AFPT standards**
- **NO knees, back, feet problems**

Psychological Health

- Stress tolerance
- Self-regard
- Well-informed, supportive family
- Work-life balance
- Self-actualization
- Optimism in adversity
- Happiness
- Positive interpersonal relationships
- **NO current mental health problem**
- **NO inability to manage stress**
- **NO history of alcohol abuse or family maltreatment**
- **Close screen history of mental disorder or marital problems**

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Standardized Base Mental Health Evaluation on Each Critical Domain

- Evaluation structured by job-critical domains:
  - Candidate materials
  - Clinician interview
  - Cognitive/other tests
- Behavioral/historical anchors

II. JUDGMENT / SELF-CONTROL

Target: Acts maturely and sensibly; makes good decisions; maintains good self-control over emotions and actions; does not lash out or take advantage of others; does not abuse alcohol or other substances.

WEAK ← → STRONG

Sample

Finances poorly managed, debt exceeds means----------Finances in good order/has a savings plan

Problematic impulsive overindulgence (e.g. food, alcohol)----------Consistently measured/responsible behavior

History of disciplinary problems in school----------Was responsible/mature in school

Article 15/LOR/legal/clearance problems----------No disciplinary/legal problems in USAF

Recurrent traffic infractions/accidents---------- Unremarkable driving record

Quick to anger/outbursts----------Strong self-control emotions/behavior

Professional relationship boundary violations----------Always maintains appropriate boundaries

History of maltreatment of others (e.g. family, subordinate)----------No history maltreatment of others

Optional/Suggested clarifying questions:

- **"What makes you angry? How can you tell when you're getting angry? How do others know when you are angry?"**
- **"What type of trainee is most like to "push your buttons?" "How will you handle this?"**
- **"What types of trainees do you think you will really like?"**
- **"What are some choices or mistakes that you particularly regret?"**

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360 Degree Rating Instrument on Each Critical Domain

Domain	#items	Scale α	Sample Item
Integrity	9	.97	"Does not take advantage of rank or position for personal benefit."
Judgment/ Self-Control	6	.93	"Displays control under pressure and manages setbacks with maturity."
Conscientiousness/ Work Dedication	7	.91	"Enforces Air Force instructions, policies, and procedures."
Adaptability	6	.95	"Adapts to new and changing missions, tasks, and situations."
Communication	4	.91	"Speaks clearly and persuasively to individuals or small groups."
Leadership	12	.96	"Leads others in a fair and consistent manner."
Interpersonal	4	.84	"Acts courteously and respectfully to others at all times."
Intelligence/ Decision-Making	7	.94	"Identifies and assesses risk to ensure safety and mission accomplishment."

Ensuring Reliability in 360 Degree Rating Process

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- **Anonymous and confidential ratings provided online from co-workers designated by the candidate's commander**
  - **Must have worked with candidate for minimum of 6 mos.**
- **Consistent with research showing supervisory ratings ~2x as reliable as peer/subordinate ratings, require ratings from minimum of 2 peers, 2 subordinates, and 1 supervisor (request 3 peers, 3 subordinates)**
- **Initial results from 60 MTI candidates evaluated in initial 6 mos…**
  - **Reliable correspondence among peer, subordinate, supervisor ratings on rated critical domains and recommendations**
    - **Largely unrelated to candidate self-ratings**
  - **Co-worker ratings provide distinct info from clinical interview**

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Review Overall Candidate Ratings by Domains

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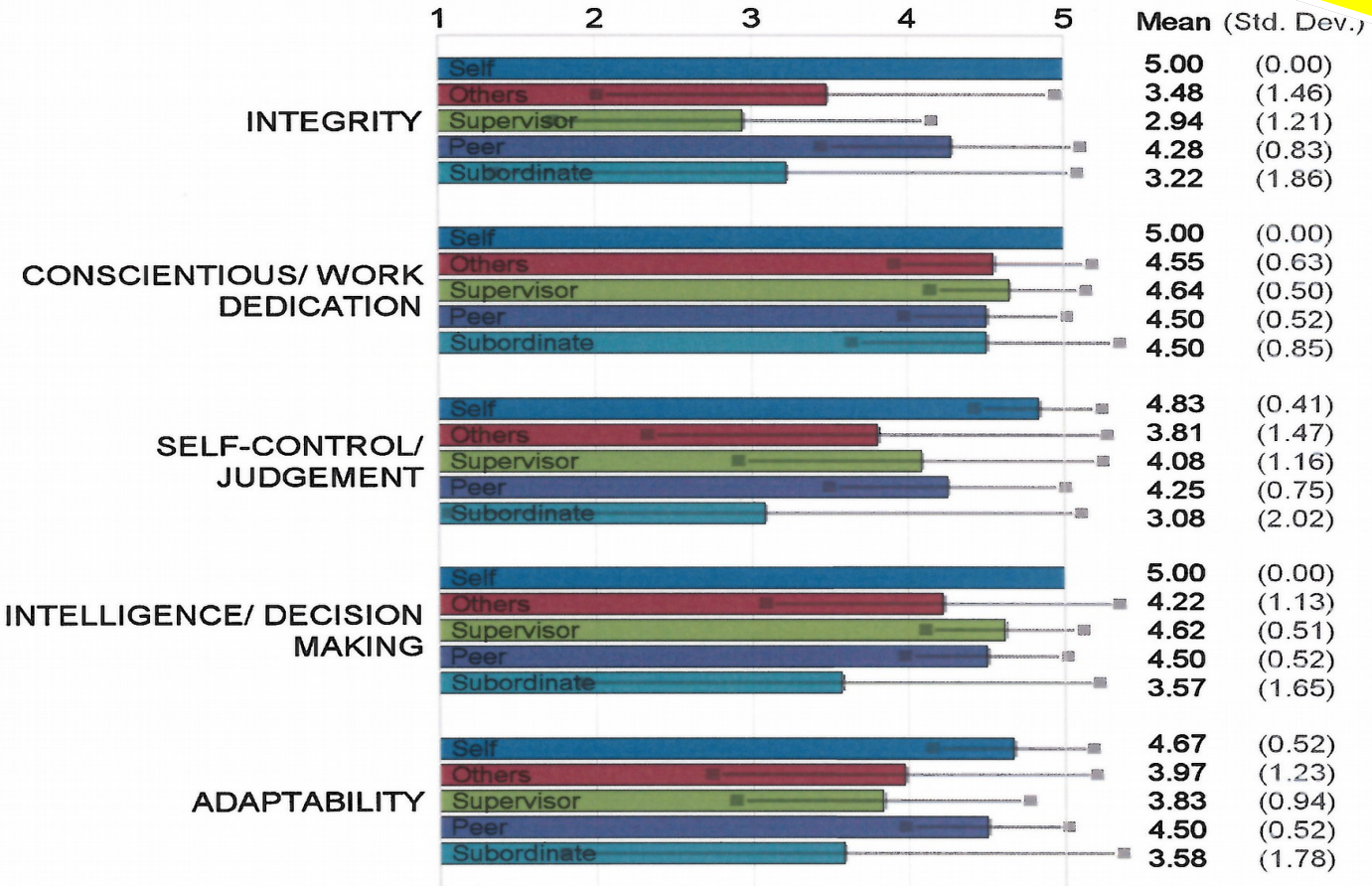
Performance Competency Ratings Overvie

Sample



Focus on Potential "Red Flags"

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Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1	2	3	4	5

Items shaded in yellow indicate the rater DISAGREED the statement described [redacted]'s work performance

INTEGRITY Please indicate the extent of your agreement with each statement as a description of [redacted]'s work performance.

Statistic	Min Value
2. Displays commitment to the Air Force core values	2
3. Maintains integrity and ethical principles	2
5. Does not allow biases or personal relationships to interfere with professional actions	1
6. Willingly comes forward with problems or information even if consequences are adverse	1
7. Does not take advantage of rank or position for personal benefit	1
9. Does not hide or distort negative information to avoid consequences or inconvenience	1

SELF-CONTROL Please indicate the extent of your agreement with each statement as a description of [redacted]'s work performance.

Statistic	Min Value
1. Avoids inappropriate personal relationships (e.g., flirting, fraternization)	1
2. Does not engage in maltreatment or maltraining of others	1
4. Refrains from negative or degrading comments about members of the opposite sex, other cultural or ethnic groups, or different personal backgrounds	1
5. Acts as a role model regarding good judgment, alcohol use, and the Wingman concept	1

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Co-Workers Source of Otherwise Undetected ~~Negative Info~~

- **Even among candidates with a positive recommendation for MTI duty from base mental health clinic, significant incidence of co-workers identifying negative candidate information:**

Disagreement with Critical Item	Negative Candidate Information from 1+ Peer(s) or Subordinate(s)
"Avoids inappropriate personal relationships (e.g., flirting, fraternization)"	10% of command-nominated, clinic-recommended candidates (5 of 50 candidates)
"Does not take advantage of rank or position for personal benefit."	10% of command-nominated, clinic-recommended candidates (5 of 50 candidates)

- **Psychologists integrating the clinic and co-worker results, err on the side of caution and may non-recommend if any raters ID negative info on key items most related to past incidents at BMT**

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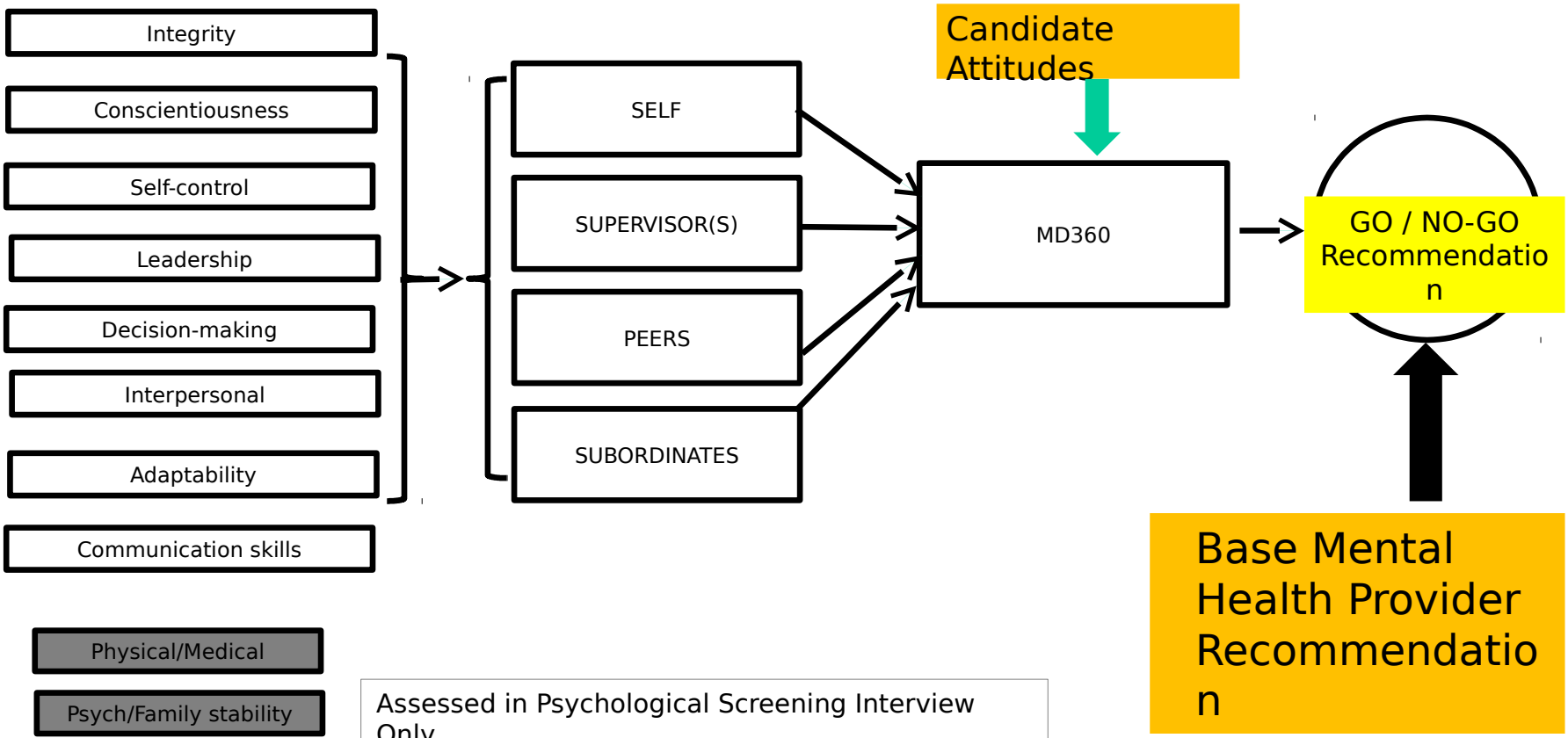
Putting it All Together: Psychological Screening



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Attitudes as Additional Potential "Red Flags"

- Past performance (i.e., in previous assignments) typically strongest predictor of future performance (i.e., as MTI)
- However, MTI duty may afford unique "opportunities" for both positively inspiring next generation of Airmen and for grossly improper behavior that NCOs may not have had previously in their career
  - Authority over lowest-ranking, potentially most vulnerable and impressionable members
- Hence, additionally evaluated use of (self-report) attitudinal measures that research literature has linked to risk for sexual harassment and sexual assault…

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Attitude Measures in Screening for Negative ~~Work Behaviors~~

- **Literature on integrity testing in industry shows that, not just job candidate admissions of past negative behaviors, but also candidate-reported attitudes predict likelihood of engaging in future counterproductive work behaviors (e.g., McDaniel & Jones, 1986)**
  - **Example admission of behavior: "I have stolen office supplies or equipment from work"**
  - **Example candidate-reported attitudes linked to future behavior:**
    - **"If employers under-pay their employees, taking office supplies and equipment may be justified"**
    - **"A large percentage of employees steal"**
    - **"When mistreated, sometimes it's necessary to even the score"**

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Attitude Measures in Screening for Negative ~~Work Behaviors~~

- **May be possible to apply the same reasoning to help predict those who, if in a position of authority with limited oversight, may be likely to maltreat subordinate trainees (even if no admission/incidence of past negative behaviors)**
  - **Example behavior #1: "Takes advantage of rank or position for personal benefit"**
    - **Attitude linked to Behavior #1: "Subordinates need to show obedience to their leaders above all else" (Authoritarianism)**
  - **Example behavior #2: "Makes negative or degrading comments about members of the opposite sex"**
    - **Attitude linked to Behavior #2: "Most women interpret innocent remarks as being sexist" (Hostile Sexism facet)**

Attitudes Linked to Sexual Assault, and Subordinate Treatment

- Research shows measures of authoritarianism and antipathy towards women to relate to admissions of sexual assault and sexual harassment perpetration
  - Authoritarianism: Begany & Milburn, 2002; Walker, Rowe, & Quinsey, 1993; Hostile sexism: Begany & Milburn; Chapleau, 2007; Krings & Facchin, 2009
- Some evidence that both attitude measures also linked to other forms of aggression (e.g., Malamuth, 1988), and authoritarianism linked to voluntarily turnover of subordinates (Ley, 1966)
  - Evaluated potential validity of authoritarianism and hostile sexism measures to distinguish MTIs most likely to engage in:
    - (a) Trainee maltreatment, and
    - (b) Effective leadership and mentoring of trainees

Study Method

- 143 current MTIs completed confidential survey for "improving screening and person-job match" of future MTIs"
- MTIs completed measures of their own traits and attitudes:
  - Traditional Big Five personality traits, facets (from SDI+, IPIP) targeted to match domains ID'ed in MTI job analysis
  - Attitude scales: Authoritarian Aggression, Authoritarian Attitudes Toward Child-Rearing, Hostile Sexism scales)
  - Scale content interspersed to minimize transparency
- Scale scores matched to MTI evaluations and infractions
  - 90 MTIs had been evaluated in their role as MTI Flight Chief in available data (Jan 2011- Jun 2013)
  - Mandatory End Of Course Survey required of all

Attitude Scales: Sample Items

- **Authoritarian Attitudes Towards Child-Rearing**
  - Which one do you think is more important for a child to have?
    - Independence OR Respect for elders
    - Curiosity OR Good manners
    - Obedience OR Self Reliance
- **Authoritarian Aggression**
  - Indicate how much you agree or disagree with each statement using the 1-5 scale (5 = Strongly Agree…3 = Neutral… 1 = Strongly Disagree)
    - We need officials that believe that the best way to lead is with a firm hand.
    - Certain groups of people deserve to be toughly sanctioned because they are menaces to society.
    - Those in power must understand that some outrages must have serious consequences.
- **Ambivalent Sexism Inventory - Hostile Sexism**
  - Women seek to gain power by getting control over men
  - Feminists are not seeking for women to have more power than men (Rev)
  - Most women interpret innocent remarks or acts as being sexist
  - There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances (Rev)
  - When women lose to men in a fair competition, they typically complain about being discriminated against

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Criterion Measures

- **Trainee reports of MTI maltreatment:**
  - **EOC Survey: "Did you witness or experience any physical or verbal maltreatment [by an MTI] during training (poking, hitting, pushing, grabbing, throwing items, threats of violence, physical violence, physical intimidation, hazing, any activity which is cruel, abusive, humiliating, oppressive, demeaning, or harmful or any unnecessary contact)?"**
- **Trainee reports of effective MTI mentoring/leadership:**
  - **My Team Chief was a good mentor**
  - **My Team Chief made me proud to be an Airman**
  - **My Team Chief set a good example demonstrating AF core values**
  - **My Team Chief treated the flight and me with professionalism and dignity**
  - **My Team Chief provided corrections consistently and in the appropriate amount….**

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Results

- **Scores on all Big Five facet measures evaluated were highly inflated and did not show significant relationship to MTI outcomes**
- **Trainee reports of MTI maltreatment significantly linked to…**
  - **Elevated MTI-rated attitudes of Hostile Sexism [female flights only]**
  - **Elevated MTI-rated attitudes of Authoritarian Aggression [overall]**
- **Greater MTI mentoring/leadership effectiveness significantly linked to:**
  - **Lower levels of MTI-rated rated Authoritarian Aggression and Authoritarian Attitudes toward Child-Rearing**
- **Magnitude of correlations (uncorrected for**

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Summary

- **Initial results show that both 360 degree ratings of work performance, and candidate-reported attitudes can provide a useful supplement to base mental health screening of MTIs**
- **Use of 360 degree performance ratings on MTI candidates shows**
  - **Significant but moderate correspondence among rating sources**
  - **Even in sample in which all candidates have highest possible ratings on Enlisted Performance Reports from supervisors, and base mental health has given positive recommendation…**
    - **For 10% of MTI candidates one or more co-workers identifies critical negative information regarding integrity or self-control**
- **Self-reported attitudes (authoritarianism and sexism) significantly linked to MTI behaviors of maltreatment**

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Continued Monitoring

- **Follow-up in prospective validation of MTI outcomes over time**
  - **Continue to track applicants and how scores predict (additional) measures of MTI performance among those selected**
    - **Given time lag from selection to assignment, completed training, and assumption of duties as MTI Team Chief more definitive results not available for ~2 years**
  - **Based on continuing monitoring, make changes in scales administered, how results integrated into final decision**

Potential Relevance to, and Collaboration Across, Agencies?

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- Other agencies' use of 360 degree performance ratings
  - How have other agencies made use of 360 ratings?
    - Self-feedback only? Use in determining duty assignments?
    - What measures? How are 360 surveys/results delivered?
    - Existing tools that could be shared with other agencies?
- Investigating potential relevance of attitude measures for Sexual Assault Prevention and Response (SAPR) personnel screening
  - USAF tasking to evaluate potential measures of risk factors for sexual assault perpetration for use in screening
    - Project in early development stages
    - Validation against anonymous admissions will

Backups

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Initial Results First ~6 months: Reliability Across Sources

- **Results show significant correspondence among supervisor and co-worker ratings, but generally not self-ratings (N = 60 MTI candidates)**

Supervisor ratings with…	Correlation with Peer Ratings	Correlation with Subordinate Ratings	Correlation with Self Ratings
Overall recommendation for MTI duty	**.63*** **	**.41***	N/A
Integrity	**.48*** **	**.33***	.05
Judgment/ Self-Control	**.42*** **	**.26†**	.10
Conscientiousness	**.37** **	-.04	.12
Adaptability	**.36** **	**.25†**	**.26***
Communication	**.31***	.18	**.28***
Leadership	**.25†**	**.30***	.13
Interpersonal	.22	**.31***	.10
Decision-Making	.21	.06	.17

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Initial Results: Correspondence to Base Psychologist ratings

- **Domain ratings based on clinical interview protocol, however, generally uncorrelated with co-worker ratings**

Base clinic ratings with…	Correlation w/ Supervisor Ratings	Correlation w/ Peer Ratings	Correlation w/ Subordinate Ratings	Correlation w/ Self Ratings
Overall recommendation	-.22	-.11	.09	N/A
Integrity	.19	-.08	.01	**.24**
Judgment/ Self-Control	**.39****	.09	.01	**.34***
Conscientiousness	**.33***	-.02	-.07	-.07
Adaptability	.06	.02	.14	**.37***
Communication	.18	.04	-.08	**.44*****
Leadership	.22	.14	.13	**.43***
Interpersonal	.26	.12	.10	**.29***

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Concurrent Validation Results: All Flights (Male/Female Trainees)

	M	SD	1	2	3	4	5
1. Hostile Sexism	2.68	0.47	--				
2. Auth Aggress	3.39	0.60	.38**	--			
3. ANES Auth	2.75	1.13	.09	.20†	--		
4. MTI Maltreat	0.33	0.34	.15	**.18†**	.00	--	
5. MTI mentoring/leadership	91.49	5.08	-.09	**-.25***	**-.26***	-.20†	--

Concurrent Validation Results: Female Flights Only (N=53 MTIs)

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	M	SD	1	2	3	4	5
1. Hostile Sexism	2.66	0.37	--				
2. Auth Aggress	3.37	0.60	.26†	--			
3. ANES Auth	2.81	1.04	-.09	.21	--		
4. MTI Maltreat	0.19	0.36	**.28***	.17	.21	--	
5. MTI mentoring/leadership	90.49	7.11	-.13	-.23	-.19	-.28*	--